THE UNIVERSITY OF ALBERTA

Adolescent Alcohol Use and Related Variables

by

©

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A Thesis

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled, Adolescent Alcohol Use and Related Variables submitted by Evelyn Anne Taylor in partial fulfilment of the requirements for the degree of Master of Education.

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ABSTRACT

The purpose of this investigation was to examine the relationship between adolescent drinking patterns and the following variables: age, sex, I.Q. academic achievement, extra-curricular involvement, religious affiliation, church attendance, personal problems and parental occupations.

A Youth Survey constructed by the writer, and the Mooney Problem Check List were administered to one hundred and eighteen high school students in Tofield, a small rural community in central Alberta. Information regarding academic achievement and a measure of intelligence were obtained for each student from school records.

Responses to questions on the Youth Survey permitted dividing the sample population into three groups characterized by relative extent of alcohol use: abstainers, moderate drinkers and heavy drinkers.

Data for these three groups, gathered from the sources listed above, were analyzed using chi square techniques and analysis of variance.

Results of the study indicated that:

(a) extent of alcohol use was significantly related to sex, academic achievement, religious affiliation and church attendance, and

(b) extent of alcohol use was not significantly related to age, I.Q., extra-curricular involvement, personal problems or parental occupation.

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CHAPTER ONE

INTRODUCTION

Alcohol consumption among North American adolescents has increased substantially in recent years.

Data from the United States have confirmed in stark terms this trend. In their book, Alcohol: The New Teen-Age Turn On, Blakeslee and Sullivan (1975) have quoted the 1974 "Second Special Report on Alcohol and Health", (the largest American study ever run on the use of alcohol by teenagers), which indicated that "alcohol used among young people in grades seven through twelve is more extensive and more frequent than ever before".

This trend has also been consistently reported in recent Canadian data. Two surveys which have dramatically underscored this tendency were those done recently in Toronto and rural Alberta. In 1968, an average of 46.3% of Toronto students surveyed in grades seven through thirteen, said that they had used alcohol at least once in the past six months, compared to 72.9% reporting use in 1974--an increase of 26.6% in six years (Smart & Fejer, 1974). Similar studies were done in Alberta in 1971 and 1975. Bakal, Milstein and Rootman (1972) reported that in 1971, 71.1% of students in grades seven to

twelve reported using alcohol at least once in the past six months. By 1975, this figure had risen to 76.5% (Brown, Schurr, and Di Puma, 1975).

The studies referred to are only a very few of those done which have verified the same conclusion--alcohol consumption among adolescents has increased considerably in recent years. Though authors of these studies have consistently reported this conclusion, they seldom seemed to agree about its implications. Several have viewed the trend with considerable pessimism.

One such view has been that teenage use of alcohol is particularly hazardous because of the formative nature of adolescence. In an age characterized by uncertainty and self-doubt, a few drinks can provide the teenager with an increased sense of confidence and power. He may discover too, that alcohol eases negative, but common, teenage feelings of loniness, anxiety, and a desperate need to belong. It allows him instead to feel relaxed, outgoing and sociable. When he experiences frustration and turmoil, he may learn alcohol brings escape and euphoria. The easy attainment of these desirable feelings may lead a teenager to view alcohol, not as a potential problem but rather as a solution to the problems of adolescence. Those who consequently see teenagers as especially vulnerable to dependency on alcohol, are understandably very concerned about the dramatic rise in the number of teenagers using this drug.

Other authors who have reacted unfavorably to the rising statistics, are those who have concluded that there is a strong relationship between adolescent alcohol use and adult abusive drinking behavior. From this view, a current rise in teenage consumption necessarily means a subsequent rise in destructive drinking behavior in the future.

The increasing popularity of alcohol among teenagers has appeared particularly ominous when reported in the following ways:

--by the time they are in the tenth grade, half of the school population is drinking in cars at night.

--about one third of high school students get drunk at least once a month.

--sixty percent of those killed in drunken driving accidents are teenagers. (Blakeslee and Sullivan, 1975).

Obviously then, there are those in our society who have viewed increased adolescent consumption as near catastrophic. There are others, however, who have viewed the trend with less apprehension.

Some people, for example, have maintained that use of alcohol is not the same thing as problem drinking (Ayars and Milgram, 1970). Use could mean a glass of wine or a beer with pizza. It could mean a celebratory drink on graduation night, or a beer or two after a hard-fought hockey game. That more

teenagers are involved in this kind of drinking behaviour is not so frightening.

Authorities who tend to calm the apprehension about adolescent drinking are those whose studies indicate that, on the whole, teenage drinking patterns mirror those of their parents. (Smart and Fejer, 1972). In other words, parents who are abstainers raise abstainers; those who drink regularly raise children who will drink regularly. This finding, supported by large numbers of studies done on adolescent drinking, should comfort the vast majority of people in our society for whom alcohol is a social tool, not a problem.

Perhaps the most reassuring view of adolescent drinking is that which has been voiced by Dr. Morris E. Chafetz, a respected authority on alcohol. In his book, Liquor: The Servant of Man, he devotes a chapter to dispel the myths and controversies surrounding teenage drinking. In his opinion:

> "Teenage drinking is common and is not alcoholism; liquor for the teenager reflects an identification with adults; it attempts to ease the adolescent's passage to adulthood; and it fits into the youth culture orientation of fun and sociability."

Dr. Chafetz also maintains that adolescents exhibit healthy drinking behavior in that they drink; (a) in groups, and (b) as part of their social pattern.

These are but a few of the opinions expressed about adolescent use of alcohol. It is obvious that even a cursory review of the literature written on the subject raises more questions than it answers.

Significance of Study

Such divergent thinking regarding adolescent use of alcohol has reflected a need for further investigation into the area.

An aspect which has seemed especially relevant to this writer was the examination of adolescent use of alcohol in small rural communities. To date most of the studies on the topic have been done in the United States. Those done in Canada have been largely confined to large cities such as Toronto and Vancouver. With the exception of the rural Alberta surveys done in 1971 and 1975, it seems that inquiries into alcohol use by teenagers in small towns has been largely overlooked. This study, then, was an attempt to examine in a very limited way, a few of the issues related to teenage use of alcohol in a rural community.

Within this framework, several issues have assumed particular importance for this writer. Among then are: (a) Do teens who drink regularly differ significantly in other aspects of life, from those who drink very little, or who do not drink at all? (b) Do those who drink regularly, differ in any significant ways from those who drink heavily, or those who abstain?

More specifically, questions such as the following have come to mind. Do teens who abstain or drink very little have fewer problems than those who drink regularly? Do male

adolescents drink more than female adolescents? Are teens who attend church regularly more often abstainers? Which teens are involved in extra-curricular activites? Do teens who abstain from alcohol have higher grades than those who drink?

Thus in this study the author has attempted to differentiate between teen non-drinkers, and teen drinkers with regard to some basic characteristics.

Purpose of the Study

It was the purpose of this study to do the following:

1. identify adolescents in one rural community as members of one of the following three drinking groups:
   (a) abstainers
   (b) moderate drinkers
   (c) heavy drinkers
2. describe and examine each group listed above for similarites and differences with respect to:
   (a) age
   (b) sex
   (c) I.Q.
   (d) academic achievement
   (e) extra-curricular involvement
   (f) religious affiliation and church attendance
   (g) personal problems
   (h) parents' occupation

In order to accomplish these purposes, four sources of information were used, namely:

1. a survey which made it possible to place individual adolescents in one of the three groups listed before and which also revealed the individual's age, sex, academic achievement, extra-curricular involvement, church attendance, and parents' occupation.
2. a check list which revealed the nature and extent of the invididual's problems. The Mooney Problem Check-List served this purpose.
3. cumulative records from which a measure of I.Q. was obtained.
4. high school grade sheets from which an academic average was computed.

Organization of the Study

In Chapter One the author has presented relevant background information, discussed the significance of the study and outlined its purposes.

In Chapter Two, the author has discussed current research undertaken in the area of adolescent alcohol use.

Chapter Three has been concerned primarily with the design of the study, the instruments used, and the treatment of data.

Chapter Four has contained results and discussions of these results.

Chapter Five has dealt with conclusions and implications for further research.

Limitations of the Study

1. This study was concerned only with students registered in the high school program at the Tofield Public School, Tofield, Alberta, and therefore, care should be taken in generalizing results of this research to the general population without careful re-examination.
2. Information regarding student alcohol use and personal problems was obtained by a self-reporting questionnaire, responses to which may have been affected by such things as social desirability and concern over confidentiality.
3. Placement of individual students in a particular drinking category was determined by calculating the total number of alcoholic drinks consumed monthly. There was room for error in this placement in that all drinks (whether beer, wine, or distilled spirits) were assumed to contain the same amount of pure alcohol; 0.6 ounces.

CHAPTER TWO

A REVIEW OF CURRENT RESEARCH

Introduction

Concern with youthful drinking and drinking problems has never been greater than at the present. Much of this concern is due to the fact that young people are a large and highly visible section of society. Indeed, nearly 40% of the population in Canada is currently under 25 years of age (Smart, 1976).

The concern with adolescent drinking has resulted in extensive research the world over. However, the research which has been examined by the author in this study is confined to topical regional studies and major North American literature.

Recent Research on Adolescent Alcohol Use

San Mateo Studies (Blackburn, 1976). The San Mateo studies of student drug use provided a series of annual observations of levels of drug and alcohol use among students in grades 7 through 12. These surveys have been administered each year since 1968 to all students in participating public, private and parochial schools in San Mateo, California. Annual surveys included up to 35,000 responses. This permitted significant differences in patterns of use between grades and sexes to be

observed. It also was possible to show significant differences in levels of use from year to year by grade/sex groups.

A number of observations made in the San Mateo surveys are relevant to the writer's study:

(1) The proportion of young people using alcoholic beverages to any extent has increased during the last nine years. For example in 1968, 35.6% of eleventh grade males reported use of alcohol on ten or more occasions during the previous year. By 1976 this figure had risen to 61.0%. The comparable figures for females was 24% reporting use ten or more times in 1968 and 56.0% reporting use to this extent in 1976.

(2) The proportion of young people using alcoholic beverages on fifty or more occasions in the preceding year has increased even more. In 1970, 23.4% of eleventh grade males reported this extent of usage. By 1976 the figure had risen to 33.3%. Comparable figures for females were 12.9% reporting use of alcohol on fifty or more occasions in 1970, and 26.2% reporting use to this extent in 1976.

(3) The use of alcoholic beverages by females is approaching that of males. For example, in 1968, 35.6% of the eleventh grade males and 24.0% of the eleventh grade females reported using alcohol ten or more times in the preceding year--a difference of 12.6%. In 1976, 61% of the males and 56% of the females reported this usage--a difference of only 5%.

(4) The shift in drinking patterns is dramatically measured by the median. A student who uses alcohol on the median number of occasions can say that half the adolescents of his sex drink more frequently than he, and the other half less frequently. The "middle-of-the-road" male eleventh grader used alcohol on about four occasions in 1968 and twenty-six occasions in 1976.

A National Study of Adolescent Drinking Behavior, Attitudes and Correlates. In 1974, the Research Triangle Institute, under contract with the National Institute on Alcohol Abuse and Alcoholism, conducted a questionnaire survey among United States high school students concerning drinking practices, drinking attitudes and problems related to alcohol consumption among American youth. The questionnaires were completed by a total of 13,122 students in grades 7 through 12. This study was nationwide in scope and its sample was designed to be representative of all United States adolescents.

The writer wished to examine this study in some detail for two reasons: (a) it is a prominent study in the field of research concerned with adolescent alcohol use, and (b) the writer's own study is in part patterned after the RTI study--much of the questionnaire used in the writer's study was an adaptation of the RTI survey instrument.

Several conclusions from the RTI survey are relevant to the writer's study:

(1) Most American adolescents have at least some experience with alcoholic beverages. Including all age groups in grades 7-12,

were abstainers.

(2) About one in three adolescents can be classed as an infrequent or light drinker, but almost one in four is a moderate/heavy or heavy drinker.

(3) Almost 80% of adolescents have had at least one drink and almost 74% have had at least 2-3 drinks.

(4) Over one half (54.8%) of all adolescents drink at least once a month. About 40% drink at least 3-4 days a month, and slightly less than one in four (23.3%) drink at least once a week. Daily drinkers constitute 2.4% of the adolescent population, with those drinking at least 3-4 days a week constitute 8.3% of the adolescent population.

(5) A greater percentage of boys than girls drink. For example 31.3% of the females were abstainers whereas only 23.3% of the males were in this category. Also 16.4% of males were classified as moderate drinkers and 14.6% of the females were in this category. The difference of usage reported between the sexes is not as great as it was in previous studies.

(6) Drinking and increased level of drinking are strongly related to increasing age. While at age 13, abstainers comprise 37.8% of the age group, at age 17 only 17.2% are abstainers. Correspondingly, moderate/heavy and heavy drinkers comprise 11.6% of the 13 year old group but over 40% of the 18 and over age group.

(7) The effect of belief in traditional religious values on drinking levels is strong, especially as demonstrated in

the abstainer and moderate/heavy and heavy categories. Though 27.3% of the total sample were abstainers, 38.9% of those with high religiosity scores and 11.4% of those with low religiosity scores were abstainers. Likewise, though 24.3% of the total sample were moderate/heavy and heavy drinkers, 13.9% of those with high religiosity scores and 40.7% of those with low religiosity scores were in this category.

(8) The drinking patterns across parents' occupational groups indicate remarkable similarity. While the lowest abstention rates are among the children of white collar workers and the highest among the children of blue collar workers and farmers, the differences are not large. Considering both moderate/heavy and heavy drinkers, the percentages range from 22.9% (skilled workers) to 27.1 (farmers), a difference of only 4.2%.

(9) Parental drinking behavior is strongly related to adolescent drinking. Though 27.3% of the sample were abstainers, only 15% of the children of at least one regularly drinking parent were abstainers. In contrast, 57% of the children of the abstainers were abstainers. Given that at least one parent drinks regularly, an adolescent appears to be about twice as likely to be a moderate to heavy drinker in comparison to an adolescent with nondrinking parents. Only about 17% of the adolescents studied indicated their parent(s) did not drink or didn't know if their parent(s) drank.

(10) Those students who do very well in school (as measured by self-reported grades) are more likely to be abstainers or infrequent drinkers. However, those who do poorly in school (mostly C's and D's or D's and F's) are about as likely to be abstainers, infrequent or light drinkers as moderate/heavy or heavy drinkers.

(11) Though more than 70% of the students reported having had a drink in the past year, the percentages reporting negative consequences of drinking was fairly small. Of the five negative consequences listed in the questionnaire the most frequently mentioned by all respondents were difficulties with friends (17.1%), driving under the influence of alcohol (15.9%), and criticism by dates (10.4%).

A Recent Canadian Study. In 1976, Reginald Smart and Gayle Gray conducted a study of adolescent alcohol use involving 1,439 students in grades 9-13 in Central Ontario. This study was done for the Addiction Research Foundation in Ontario. Among the findings of this study were the following:

(1) Drinking frequency:

(a) 86% of the adolescents surveyed reported drinking alcoholic beverages within the past six months.

(b) 21.3% of the drinkers reported drinking as often as once a week.

(c) 2.2% of the drinkers reported drinking daily.

(2) Places of drinking:

(a) 37% of those who drank, said they usually drank

at home with parents or relatives.

(b) Most of the others drank mainly at a friend's home or in bars and taverns.

(c) 15% of those who drank reported drinking mainly outside or in cars.

(3) Drinking of parents:

(a) Of those who drank, 90% reported that their fathers drank.

(b) Of those who drank, 80% reported that their mothers drank.

(4) Characteristics associated with drinking were:

(a) increased age - 17 or 18.

(b) sex - more drinkers among males than among females

(c) grade average - there were more drinkers among those with low grade averages

(d) father's drinking - there were more drinkers among those whose fathers drank often

(e) mother's drinking - there were more drinkers among those whose mothers drank often.

Research in Rural Alberta Areas

Drug Use in Rural Alberta 1975. In 1975, P.A. Brown, B.C. Shurr, R. Di Puma, and P. Zelhart surveyed 1,188 junior and senior high school students in the northern area of Alberta. The 44-item questionnaire used as the survey instrument was a revision of the questionnaire used by Bakal (1974) which in turn was an adaptation of the Ontario Addiction Research Foundations' question-

naire (Smart et al., 1973).

Pertinent findings of this study were:

(1) Incidence of alcohol use - 76.5% of the students surveyed reported using alcohol at least once in the past six months.

(2) Frequency of alcohol use - 36.1% of the students surveyed reported consuming alcohol seven or more times in the past six months.

(3) Alcohol use by sex - differences between male and female use was not significant.

(4) Alcohol use by age - the percentage of students reporting use of alcohol while generally increasing with increased age, peaked at age 17.

(5) Alcohol use by grade average - the reported use of alcohol was significantly greater for students with lower grade averages.

Drug Use in Rural Alberta; 1971-1976. Donald A. Bakal of the University of Calgary, Alberta has conducted three major drug surveys in the five-year period of 1971-1976. In 1971, 9,863 students ranging from grades 9 through 12 made up the sample. In 1974 the survey was repeated on a sample of similar magnitude (N=8355). In 1976 the survey was again conducted but on a smaller scale. The sample consisted of 4,542 junior and senior high school students and 262 grade six students. All the schools in the 1976 study had been previously surveyed in 1971 and 1974 and had been selected such that the total sample was representative of southern, central, and northern rural Alberta.

These findings from Bakal's surveys are relevant to the writer's study:

(1) Incidence of alcohol use - 70.4% of students in grades 7-12 reported using alcohol at least once in the past six months. This use declined from 72.9% in 1974.

(2) Frequency of alcohol use - the number of respondents that reported weekly use of alcohol dropped from 36% in 1974 to 29.9% in 1976.

(3) Alcohol use and grade average - in 1974 there was a definite relationship between reported alcohol use and grade averages with the reported use of alcohol being significantly greater for students with lower grade averages. This relationship also emerged in the 1976 study. Of those students with an average of 75 or more, 56.9% reported alcohol use; of those with an average of 66-74, 70.6% reported use; of those with an average of 50-65%, 75.4% reported use and of those with an average below 50%, 64.2% reported use.

(4) Alcohol use by sex - in 1974, more males reported using alcohol, a finding that also emerged in the 1976 study. The percentage differences, however, were minimal. In 1976, 72.7% of the males reported using alcohol at least once in the past six months while the corresponding figure for females was 67.8%.

(5) Alcohol use by age - the percentage of students reporting use of alcohol while generally increasing with increased age, peaked at age 16. 82.7% of the sixteen year-olds reported

use in 1976, as compared to 80.8% for seventeen year-olds and 78.8% for eighteen year-olds.

(6) Problems associated with alcohol consumption

(a) 10.6% of the students reported missing school because of alcohol.

(b) over 25% of the students reported having homework or test difficulties because of alcohol.

(c) over 25% also attributed the loss of friends, fighting and minor theft to alcohol use.

(d) over 25% of the students reported physical symptoms (nervousness, dizziness, fatigue, headache) as occurring in conjunction with alcohol use.

(e) 3% reported being charged with driving offenses after drinking.

(f) 3.2% reported being involved in traffic accidents after consuming alcohol.

(7) Community influences - the data in the 1976 study strongly suggest that residents in some communities are more prone to use alcohol and this pattern is clearly present in both junior and senior high school students. In some schools, as few as 21.4% of the students reported alcohol use, while in other schools 91.3% of the students reported use.

SUMMARY

It is often difficult to compare the results of one study of adolescent alcohol use with other studies in the same area. Part of this difficulty stems from a lack of agreement on basic terminology. For example, what may be considered problem drinking by some researchers may not be by other researchers. Also, although many studies may address themselves to answering the same basic questions, the data may be reported in several different ways thus making comparisons difficult.

There are, however, some conclusions that are common to many studies. The following findings are common to two or more of those studies examined in this chapter:

(a) A large majority of junior and senior high school students have had some experience with the beverage alcohol.

(b) The use of alcohol beverages by females is approaching that of males, however, there is still a greater percentage of males than females who drink.

(c) Drinking and increased level of drinking are related to increasing age. Some studies show that alcohol use among adolescents peaked at age 16 or 17.

(d) Reported use of alcohol was significantly greater for students with lower grade averages.

(e) The proportion of young people using alcoholic beverages has increased in the last decade. However,

in the last two years there has been some indication that alcohol use is levelling off.

CHAPTER THREE

EXPERIMENTAL DESIGN AND PROCEDURE

Subjects

The subjects of this study were the high school students of the Tofield Public High School, Tofield, Alberta. The writer intended to use the entire population of the high school in this study, however, 18 of the 136 students were unable to participate. Reasons for not participating included the following: (a) involvement in Work Experience Projects, (b) previous business commitments, and (c) illness. Thus the subjects of the study numbered 118 students in grades ten, eleven, and twelve.

The Instruments

The Youth Survey. In 1974, A Student Questionnaire was developed by the Research Triangle Institute for the National Institute on Alcohol Abuse and Alcoholism in the United States. This questionnaire served as the survey component of the largest study of adolescent drinking ever done in the United States.

After examining several other questionnaires used in studies on adolescent drinking practices, this writer chose to develop a questionnaire that included much of the content of the Research Triangle Institute questionnaire. However, the Research Triangle Institute Study was very broad in scope and included questions about peer influence, drinking context, reason for

drinking, problem drinking, etc., all of which were extraneous to the writer's study. Thus the writer reduced the RTI questionnaire considerably so that it provided: (a) data necessary for this investigation, (b) data useful to the writer's role as counselor in the Tofield School. The questionnaire used in this study is found in Appendix A.

Thus the Youth Survey administered to the Tofield high school students provided the following demographic data for each student: (a) age, (b) sex, (c) academic achievement, (d) extra-curricular involvement, (e) religious attitudes and practices, (f) occupations of parents, and (g) current drinking practices.

The Mooney Problem Check List. The Mooney Problem Check List was developed during the early 1940's and revised in 1950, to "help students express their personal problems" (Mooney, 1950). It consists of a battery of 330 items, each briefly describing a problem. The student underlined the problems which were of concern to him and circled the ones of most concern. This questionnaire is found in Appendix B.

The High School Form of the Mooney Problem Check List assessed problems at the time of the survey in the following areas:

(a) health and physical development
(b) finances, living conditions, and employment
(c) social and recreational activities
(d) social-psychological relations
(e) personal-psychological relations
(f) courtship, sex and marriage

(g) home and family

(h) morals and religion

(i) adjustment to school work

(j) the future: vocational and educational

(k) curriculum and teaching procedure

Cumulative Records. Measures of each student's Intelligence Quotient were obtained from the school's Cumulative Records. When available, the most recent results of the Lorge-Thorndike Test were used. Generally this test was last administered to students when they were in the ninth grade.

High School Grade Sheets. Each student's academic average in the last reporting period, (June, 1978) was computed from the data recorded on the High School Grade Sheets.

Procedure

The study was piloted with a grade eleven class in the Holden School two weeks prior to the date of the actual study. The purposes of this pilot study were to: (a) determine the usefulness of the Youth Survey in dividing students into groups of abstainers, moderate drinkers and heavy drinkers, (b) make certain that the data required for this study could be obtained from the instruments which were being used, and (c) to determine the time necessary for the administration of the Youth Survey and the Mooney Problem Check Lists. The pilot study served all these purposes.

After consultation with the principal of the Tofield School and the teachers whose classes would be interrupted for

the administration of the research instruments, it was decided that it would be possible and desirable, to complete all surveying within a single school morning. This would minimize the disruption of school routine and would reduce student discussion of particular test items which might affect responses. This procedure necessitated the aid of two teachers who supervised students so the writer was able to move between classrooms giving instructions and answering questions.

Three days before the administration of the instruments, the writer sent a letter to the parents whose children were involved in the research, acquainting them with the nature of the study, assuring them of confidential treatment of personal data and asking them to contact the writer if they had any questions. There were no inquiries made.

Because it was necessary to collate material from Cumulative Records and High School Grade Sheets with information from the survey intruments, identifying numbers were placed on each set of tests administered to every individual. The respondents indicated on a separate sheet of paper their names and their test numbers so that such collations should later be made.

The students were assured by the writer that their responses to questionnaire items would be treated confidentially. Both the Youth Survey and the Mooney Problem Check List were then administered by the writer (with the assistance of two teacher supervisors) in standardized testing situations to each of four groups, data thus being obtained on both measures for the par-

ticipating population of 118 students.

Measures of each student's intelligence quotient were obtained from the school's Cumulative Records and each student's academic average was computed from the data recorded on the High School Grade Sheets. These scores were added to the appropriate answer sheets for each subject.

Information from all four sources was then transferred to Summary Sheets.

Calculations determining each student's monthly consumption of alcohol led to dividing the population into three groups; abstainers, moderate drinkers and heavy drinkers. Those adolescents who didn't drink at all or who consumed less than 0.6 ounces of absolute alcohol monthly were classified as abstainers. Adolescents who drank up to sixty drinks per month, thus consuming from 0.6 to 36 ounces of pure alcohol monthly were placed in the moderate drinking category. Students classified as heavy drinkers were those who reported drinking 61 or more drinks per month placing their intake of pure alcohol at 36.6 or more ounces monthly. (Details regarding the classification scheme are found in Appendix C.)

Data for all three groups were transferred to computer cards and appropriate statistical analysis as described in Chapter Four carried out.

Research Questions

The primary purpose of this investigation was to ex-

amine the relationship between adolescent drinking patterns and a number of selected variables.

The study was designed then, to answer the following research questions:

(1) Is there a significant relationship between extent of alcohol use and each of the following variables: (a) age? (b) sex? (c) academic achievement? (d) religious affiliation? (e) church attendance? and (f) parental occupation?

(2) Is there a significant difference between abstainers, moderate drinkers and heavy drinkers in (a) I.Q.? (b) extra-curricular involvement? (c) total personal problems as assessed by the Mooney Problem Check List? (d) problems reported to be most troublesome as assessed by the Mooney Problem Check List?

CHAPTER FOUR

RESULTS AND CONCLUSIONS

Overview

The primary purpose of this study was to examine three groups of adolescents; abstainers, moderate drinkers and heavy drinkers, for similarities and differences with respect to some basic characteristics.

Statistical analysis of the data obtained from the Youth Survey, the Mooney Problem Check List, the Cumulative Records and the High School Grade Sheets included the following calculations:

(1) the use of a chi square contingency table where chi data obtained was most meaningfully reported in terms of categories (as for sex, religion, parental occupation, etc.)

(2) the use of an analysis of variance where the data was continuous in nature (as for I.Q. scores, number of extra-curricular activities, etc.)

Statement of an appropriate conclusion regarding each basic characteristic follows pertinent statistical findings from the calculations indicated above.

Incidence of Alcohol Use

(a) Findings

The Youth Survey provided the information necessary to place students in one of the three drinking level categories according to the criteria outlined in Chapter Three. The number of students in each of these drinking groups has been depicted in Table 1.

TABLE 1

PERCENTAGES IN EACH DRINKING GROUPS

Drinking Group	Number of Adolescents	% of the Adolescents
Abstainers	40	34%
Moderate Drinkers	61	52%
Heavy Drinkers	17	14%
Totals	118	100%

(b) Conclusions

A little more than one third (34%) of the high school population in this rural community refrained from using alcohol. From the data collected, it appeared that 52% of the students drink what has been categorized as moderately; that is, an amount that varied from one to sixty drinks monthly. Fourteen percent of the students reported consuming more than 60 drinks per month; their intake of pure alcohol thus exceeded

36 ounces monthly.

Alcohol Use by Age

(a) Findings

Table II shows how types of drinkers were distributed by age.

TABLE II

PERCENTAGES IN EACH DRINKING GROUP BY AGE

	AGE							
	15		16		17		18	
Drinking Group	(N)	%	(N)	%	(N)	%	(N)	%
Abstainers	8	26.7	14	34.1	14	35	4	57.1
Moderate Drinkers	17	56.9	23	56.1	19	47.5	2	28.5
Heavy Drinkers	5	16.7	4	9.8	7	17.5	1	14.3
Totals	(30)	100	(41)	100	(40)	100	(7)	100

To determine the statistical significance of these results, a chi square contingency table was used: = 3.74, d.f. = 6, p = .71.

The relationship between age and extent of alcohol use was not significant at the .05 level of confidence.

Alcohol Use by Sex

(a) Findings

Table III shows how types of drinkers were distributed

by sex.

TABLE III

PERCENTAGE IN EACH DRINKING GROUP BY SEX

	SEX			
	Male		Female	
Drinking Group	(N)	%	(N)	%
Abstainers	13	24.1	27	42.2
Moderate Drinkers	26	48.1	35	54.7
Heavy Drinkers	15	27.8	2	3.1
Totals	(54)	100	(64)	100

To determine the statistical significance of these results, a chi square contingency table was used: χ^2 = 15.43, d.f. = 2, p = .0004.

(b) Conclusions

The relationship between sex and extent of alcohol use was significant at the .05 level of confidence.

Table III shows that a larger percentage of females were abstainers than males. (42.2 percent versus 24.1 percent). Those females who drank, were far more likely than males to be moderate drinkers as opposed to heavy drinkers.

Alcohol Use by I.Q.

(a) Findings

Intelligence quotient measures were obtained from

Cumulative Records for each subject. Means for these scores were calculated for the groups of abstainers, moderate drinkers and heavy drinkers. Table IV has depicted these values.

TABLE IV

MEAN I.Q. VALUES FOR EACH DRINKING GROUP

Drinking Group	Mean I.Q.
Abstainers	113.45
Moderate Drinkers	112.70
Heavy Drinkers	107.59

An analysis of variance was performed to determine if significant differences existed among drinking levels. These values were depicted in Table V.

TABLE V

SUMMARY OF ANALYSIS OF VARIANCE OF I.Q. SCORES FOR ALL DRINKING LEVELS

Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Ratio Obtained	P
I.Q.	Groups	.43900	2.0	219.50	1.45	0.237
	Error	.17354	115.0	150.90		

(b) Conclusions

The relationship between I.Q. and extent of alcohol use was not significant at the .05 level of confidence.

Intelligence and drinking behavior appeared unrelated.

Alcohol Use by Academic Achievement

(a) Findings

Table VI showed how types of drinkers were distributed by academic achievement levels.

TABLE VI

PERCENTAGE IN EACH DRINKING GROUP BY ACADEMIC ACHIEVEMENT

Drinking Group	Academic Achievement A	%	B	%	C	%	D	%
Abstainers	9	60	25	38.5	6	18.2	0	0
Moderate Drinkers	6	40	36	55.4	16	48.5	3	60
Heavy Drinkers	0	0	4	6.2	11	33.3	2	40
Totals	15	100	65	100	33	100	5	100

To determine the statistical significance of these results, a chi square contingency table was used: $\chi^2 = 23.93$, d.f. = 6, p = .0005.

(b) Conclusions

The relationship between academic achievement and extent of alcohol use was significant at the .05 level of confidence.

Table VI shows that those students who achieve A's were typically abstainers. Those students who generally got B's were most often moderate drinkers, although many also were abstainers. Students who attained a C average were usually

moderate drinkers but many were heavy drinkers. Those who had a D average had the largest proportion of heavy drinkers and no abstainers. A general conclusion is that those achieving high grade levels did not drink excessively.

Alcohol Use by Extra-Curricular Involvement

(a) Findings

The number of extra-curricular activities engaged in by each subject was obtained from the Youth Survey. Means for these scores were calculated for the groups of abstainers, moderate drinkers and heavy drinkers. These values have been presented in Table VII.

TABLE VII

MEAN NUMBER OF EXTRA-CURRICULAR ACTIVITIES FOR EACH DRINKING GROUP

Drinking Group	Mean Number of Activities
Abstainers	3.38
Moderate Drinkers	3.39
Heavy Drinkers	3.41

An analysis of variance was performed to determine if significant differences existed among drinking levels. These values have been depicted in Table VIII.

TABLE VIII

SUMMARY OF ANALYSIS OF VARIANCE OF EXTRA-CURRICULAR ACTIVITIES

Variable	Souce of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio Obtained	P
Extra-Curricular Activities	Groups	0.17578	2.0	0.01	0.00	0.997833
	Errors	0.46605	115.0	4.05		

(b) Conclusions

There was no significant difference at the .05 level of confidence among the mean number of extra-curricular activities engaged in by groups of abstainers, moderate drinkers of heavy drinkers.

Students, regardless of whether they drank or how much they drank, tended to get involved to the same extent in community and school activities.

Alcohol Use by Religion

(a) Findings

Table IX has revealed how types of drinkers are distributed by self-reported religious affiliation.

TABLE IX

PERCENTAGES IN EACH DRINKING GROUP
BY STUDENT'S RELIGION

Drinking Group		Abstainers	Moderate Drinkers	Heavy Drinkers	Total
Mennonite	(N)	17	10	0	27
	%	63.0	37.0	0	100
United	(N)	4	23	4	31
	%	12.9	74.2	12.9	100
Catholic	(N)	7	15	5	27
	%	25.9	55.6	18.5	100
Lutheran	(N)	2	5	1	8
	%	25.0	62.5	12.5	100
Other	(N)	4	4	1	9
	%	44.4	44.4	11.1	100
No Religion	(N)	6	4	6	16
	%	37.5	25.0	37.5	100

To determine the statistical significance of these results, a chi square contingency was used: $\chi^2 = 28.79$, d. f. = 10, p = .0013.

(b) Conclusions

The relationship between religious affiliation and extent of alcohol use was significant at the .05 level of confidence.

Table IX show that:

(a) When compared to other religious groups, a greater percentage of Mennonites were abstainers, (63% were classified this way).

(b) The students who reported belonging to the United Church tended to be moderate drinkers (74.2% fell in this category).

(c) Catholic students were distributed most evenly among the three drinking levels, but had the highest percentage of heavy drinkers (18.5%).

Alcohol Use by Church Attendance

(a) Findings

Table X has revealed how types of drinkers are distributed by frequency of attendance at religious services.

TABLE X

PERCENTAGES IN EACH DRINKING GROUP BY CHURCH ATTENDANCE

Drinking Group		Abstainers	Moderate Drinkers	Heavy Drinkers	Totals
Once a week	(N)	26	19	1	46
	%	56.5	41.3	2.1	99.9
2-3 times/month	(N)	3	8	0	11
	%	27.3	72.7	0	100
Once a month	(N)	1	4	1	6
	%	16.7	66.7	16.7	100.1
1-2 times/year	(N)	3	13	3	19
	%	15.8	68.4	15.8	
6 times/year	(N)	2	6	3	11
	%	18.2	54.5	27.3	100
Don't attend	(N)	5	11	9	25
	%	20	44	36	100

To determine the statistical significance of these results, a chi square contingency table was used: $\chi^2 = 30.94$, d. f. = 10, p = .0006.

(b) Conclusions

The relationship between church attendance and extent of alcohol use was significant at the .05 level of confidence.

In general, the youth who attended church more frequently drank less, and conversely, the group which attended religious services less often, drank more.

Alcohol Use by Personal Problems

(a) Findings

Table XI has depicted the mean number of problems as assessed by the Mooney Problem Check List for subjects in each drinking group.

TABLE XI

MEAN NUMBER OF PROBLEMS FOR EACH DRINKING GROUP

Drinking Group	Mean Number of Problems
Abstainers	46.25
Moderate Drinkers	48.03
Heavy Drinkers	50.59

An analysis of variance was performed to determine if significant differences existed among drinking groups. These values have been depicted in Table XII.

TABLE XII

SUMMARY OF ANALYSIS OF VARIANCE OF PERSONAL PROBLEMS

Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio Obtained	P
Personal Problems	Groups	0.23154	2	1.16	0.12	0.889876
	Errors	0.1139	115	9.91		

(b) Conclusions

There was no significant difference at the .05 level of confidence between the mean number of personal problems being experienced for groups of abstainers, moderate drinkers or heavy drinkers.

It appeared then that in general, the number of problems being experienced by a high school student was not related to his drinking behavior.

Alcohol Use by Most Troublesome Problems

(a) Findings

Table XIII has depicted the mean number of problems reported on the Mooney Problem Check List as being most troublesome for subjects in each drinking group.

TABLE XIII

MEAN NUMBER OF PROBLEMS PERCEIVED AS MOST TROUBLESOME FOR EACH DRINKING GROUP

Drinking Group	Mean Number of Most Troublesome Problems
Abstainers	14.13
Moderate Drinkers	16.57
Heavy Drinkers	15.88

An analysis of variance was performed to determine if significant differences existed among drinking groups. These values have been depicted in Table XIV.

TABLE XIV

SUMMARY OF ANALYSIS OF VARIANCE OF MOST TROUBLESOME PERSONAL PROBLEMS

Variable	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio Obtained	P
Most Trouble-some Personal Problems	Groups	0.14599	2	73.00	0.41	0.667402
	Errors	0.20687	115	179.89		

(b) Conclusions

Abstainers, moderate drinkers and heavy drinkers did not differ significantly in the mean number of problems they reported as being most troublesome.

Alcohol Use by Parent's Occupation

(a) Findings

Though the author originally intended to examine the relationship between extent of alcohol use and the occupation of both parents, it became obvious after examining the data obtained from the Youth Survey, that in the large majority of families, the mother did not work outside the home. For this reason, the author chose to restrict the investigation to the father's occupation.

The occupation of each subject's father as reported on the Youth Survey was placed in broad occupational category like that used by the Research Triangle Institute which conducted the National United States Survey in 1974. The occupational categories found in Table XV are thus arranged from low prestige to high prestige occupations.

TABLE XV

PERCENTAGES IN EACH DRINKING GROUP BY FATHER'S OCCUPATION

Father's Occupation		Abstainers	Moderate Drinkers	Heavy Drinkers	Totals
Semi-skilled Worker	(N)	6	6	3	15
	%	40	40	20	100
Farmer	(N)	16	26	6	48
	%	33.3	54.2	12.5	100
Skilled Worker	(N)	11	8	5	24
	%	45.8	33.3	20.8	99.9
Office Worker Clerical	(N)	0	5	1	6
	%	0	83.3	16.7	100
Manager/Owner Administrator	(N)	4	12	1	17
	%	23.5	70.6	5.9	100
Professional	(N)	3	4	1	8
	%	37.5	50	12.5	100

To determine the statistical significance of these results, a chi square contingency table was used: $\chi^2 = 10.17$, d.f. = 10, p = 0.4253.

(b) Conclusion

The relationship between the father's occupational level and extent of alcohol use was not significant at the .05 level of confidence.

It appeared that the family's occupational level had little impact on a student's drinking behavior.

OTHER FINDINGS

The data obtained from the Youth Survey and the Mooney Problem Check List basically provided the information necessary to serve the purposes of this study as outlined in Chapter One. However, some additional information was also collected which provided interesting comparisons of each of the three drinking groups. These additional findings are discussed under the following headings: First Drinking Occasion, Mother's Work, Parental Drinking Behavior, Types of Problems.

First Drinking Occasion

Question 13 of the Youth Survey asked subjects to indicate the age at which they had consumed their first alcoholic drink. When the results were analyzed using a chi square contingency table, it was found that p = .0000. Thus, the age at which a subject took his first drink was directly

related to his current drinking behavior; the earlier a subject had his first drink, the more likely he was to be a heavy drinker and conversely, the later a subject first had a drink, the more likely he was to be an abstainer.

Mother's Work

Question 8 of the Youth Survey asked each subject to identify the category which best described his mother's work. A frequent response was "Homemaker or Housewife". To determine whether or not there was a relationship between the amount an adolescent used alcohol and his mother's occupation as a homemaker, a chi square contingency table was used with $p=0.0006$. Thus it appeared that children of mothers who were at home, were less likely to drink, and if they chose to drink they more often drank moderately than those adolescents whose mother's work took them away from home.

Parental Drinking Behavior

Respondents were asked in two separate questions (Q. 31 and Q. 32) to indicate with what regularity, if any, their parents drank. Responses were combined into a single measure of parental drinking behavior.

Results of a chi square contingency table ($p = 0.1429$) revealed that the relationship between parental drinking and extent of adolescent alcohol use was not significant at the .05 level of confidence.

This finding was interesting in view of the major-

ity of studies done in the area which have revealed that adolescent drinking patterns generally mirror those of their parents.

Types of Problems

The High School Form of the Mooney Problem Check List assessed problems at the time of the survey in the eleven areas listed. Table XVI shows the mean number of problems in each area reported by subjects in each drinking group.

TABLE XVI

MEAN NUMBER OF PROBLEMS PER AREA REPORTED BY EACH DRINKING GROUP

	Abstainers	Moderate Drinkers	Heavy Drinkers
Health and Physical Development	3.7	4.2	3.2
Finances, Living Conditions and Employment	3.6	4.3	4.1
Social and Recreational Activities	4.9	4.1	3.8
Courtship, Sex and Marriage	3.7	3.9	2.4
Social-Psychological Relations	6.1	6.0	5.5
Personal-Psychological Relations	5.0	5.2	4.4
Morals and Religion	4.9	4.8	4.6
Home and Family	3.3	3.8	4.8
The Future: Vocational and Educational	4.8	4.9	5.4
Adjustment to School Work	6.9	6.2	8.7
Curriculum and Teaching Procedure	3.6	5.5	7.7

There appeared to be very few areas in which the mean number of problems was much different for abstainers, moderate drinkers or heavy drinkers. The only areas where differences were obvious occurred in (a) adjustment to school and (b) curriculum and teaching procedure. Table XVI shows that in both these areas, heavy drinkers reported many more problems. On the whole though, the extent of alcohol use seemed unrelated to the types of problems being experienced by an individual.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND IMPLICATIONS

Summary

The Youth Survey and the Mooney Problem Check List were administered to one hundred and eighteen high school students in an Alberta rural community. Calculations determining each student's monthly consumption of the beverage alcohol led to dividing the population into three groups; abstainers, moderate drinkers and heavy drinkers. These groups were examined for similarities and differences with respect to age, sex, I.Q., academic achievement, extra-curricular involvement, religious affiliation and church attendance, personal problems and parental occupations. The results of the study indicated that extent of alcohol use was related in varying drgrees to these variables.

Conclusions

Characteristics related to alcohol use. Extent of alcohol use was related to sex, academic achievement, religious affiliation and church attendance.

With respect to sex, it was found that females were more often abstainers than males, and that if they chose to

to drink, they were far more likely than males to be moderate drinkers as opposed to heavy drinkers. Although other studies (Smart, 1976; Blackford, 1976; Rachael et al, 1975; Brown et al, 1976; and Bakal 1976) also reveal that male use of alcohol exceeds female use, they indicated differences between male and female use were not signigicant. It was difficult to account for the significant differences that existed between male and female use in the Tofield community; the writer could only speculate that females in this community were more traditional than their counterparts in other communities.

In terms of academic achievement, results indicated that those students who did very well in school were most likely to be abstainers; none of the students with a A average reported drinking heavily. Those students who received failing grades reported being heavy drinkers or moderate drinkers; none of the students with a D standing were abstainers. These findings were in general agreement with the findings of other studies (Rachael et al, 1975; Smart et al, 1976; Brown et al, 1976; Bakal 1976).

The relationship between religious affiliation and extent of alcohol use was also significant. Mennonites had a greater percentage of abstainers than any other religious group. Almost three quarters of the adolescents belonging to the United Church reported being moderate drinkers. Catholic teens were distributed more evenly among the three drinking levels, but

had the highest percentage of heavy drinkers. It was difficult to compare these results to those of other studies because other study areas did not have the large Mennonite population which existed in the Tofield sample.

With respect to church attendance, it was found that adolescents who attended religious services more frequently drank less, and conversely, the groups which attended religious services less often, drank more. These findings were consistent with those in the National Study of Adolescent Drinking Behavior, Attitudes and Correlates (Rachael et al, 1975).

Characteristics unrelated to alcohol use. Extent of alcohol use was not significantly related to age, I.Q., extra-curricular involvement, personal problems or parental occupation.

The results of this study indicated that extent of alcohol use was not related to age. A consistent finding of other studies (Rachael et al, 1976; Smart et al, 1976; Brown et al, 1976; and Bakal, 1976) has been that extent of alcohol use was significantly related to age with older adolescents generally drinking more than younger adolescents. However, the studies of Rachael, Smart, Brown and Bakal included adolescents in both junior high school and high school, so it was difficult to compare their results to the results of the writer's study which was limited to high school students.

With respect to I.Q., it was found that there was no significant difference among means on I.Q. scores for groups of

abstainers, moderate drinkers or heavy drinkers. There thus appeared to be no significant relationship between academic ability and drinking behavior. Eventhough in terms of achievement there was a difference between groups, with abstainers generally getting higher marks than moderate drinkers and moderate drinkers getting better grades than heavy drinkers.

There was no significant difference found among the mean number of extra-curricular activities engaged in by groups of abstainers, moderate drinkers and heavy drinkers. School and community involvement thus appeared to be unrelated to adolescent drinking practices.

In terms of personal problems, as assessed by the Mooney Problem Check List, it was found that groups of abstainers, moderate drinkers and heavy drinkers did not differ significantly in the total mean number of problems they experienced or in the mean number of problems they reported as being most troublesome. It was not possible to compare this finding of the writer's study to similar findings of other studies because none of those investigated by the writer dealt with adolescent problems.

The relationship between the father's occupational level and extent of alcohol use was not significant. It seemed then that the family's occupational level had little impact on a student's drinking behavior. This finding is consistent with that reported in the National Study (1975), which stated that "the drinking level pattern is remarkably homogenous across all occupational levels".

Implications for Further Research. Further research could focus on a number of areas.

It would be useful to further investigate the relationship between intelligence and adolescent drinking practices, an area that has not generally been included in studies of adolescent drinking.

It would be interesting and useful also to see if further research would corroborate the writer's finding that though intelligence was not related to adolescent alcohol use, achievement was.

Other studies could focus on the relationship between an adolescent's drinking behavior and his self concept.

Future studies could further investigate the relationship between the extent of an adolescent's use of alcohol and his attitude toward school work, curriculum and teaching procedures, the only problem areas on the Mooney Problem Check List which resulted in far different responses from abstainers and drinkers.

Bakal's (1976) finding that residents in some communities are more prone to use alcohol than those in other communities could be investigated.

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APPENDIX A

THE YOUTH SURVEY

YOUTH SURVEY

1. How old are you?

   ___13 ___14 ___15 ___16 ___17 ___18 ___19

   ___20 or over

2. Are you: ___Male? ___Female?

3. What grade are you in?

   ___10 ___11 ___12

4. What was your average last report card? (April, 1978)

   ___A average (80-100%)

   ___B average (65-79%)

   ___C average (50-64%)

   ___D average (40-49%)

   ___F average (below 40%)

5. Please indicate which of the following school or community activities you have been involved in this school year.

   ___Band
   ___Yearbook
   ___Volleyball
   ___Basketball
   ___Curling
   ___Badminton
   ___Track and Field
   ___Softball
   ___Students' Union Executive
   ___Football
   ___4-H
   ___Hockey
   ___Church Youth Group
   ___Teen Club
   ___Baseball
   ___Choir
   ___Other. Please specify
   _____

6. With whom do you live most of the time? (Mark the one best answer?)

___Both parents
___Father only
___Mother only
___Father and stepmother
___Others. Please explain _____

___Mother and stepfather
___Foster parents
___Husband and wife
___Other relatives

Questions 7, 8, and 9 refer to your parents. If you were raised by foster parents, stepparents, grandparents or some other person or persons, answer for them. For example, if you have both a stepfather and a natural father, answer for the one that was most important in raising you.

7. How much education do your parents have? (Mark one blank for the column headed "Father" and one blank for the column headed "Mother".)

Father	Mother	
___	___	Did not complete the 9th grade
___	___	Completed the 9th grade but did not go to high school
___	___	Went to high school but did not graduate
___	___	Graduated from high school
___	___	Some college or special training after high school

7. Cont'd

Father	Mother	
___	___	Graduated from college or University
___	___	I don't know

8. Please read the groups of occupations listed below very carefully. Though none of these descriptions may exactly describe what your parent does for a living, pick the one group that is the best answer.

Mark the one blank that <u>best</u> describes your father's work under the column headed "Father" and mark the blank that <u>best</u> describes your mother's work under the column headed "Mother". If your mother works outside of the home 20 hours a week or more, place her in one of the paid-job categories only.

Father	Mother	
___	___	APPRENTICE: apprentice bricklayer, mechanic, plumber
___	___	CLERICAL: bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent.
___	___	CRAFTSMAN: banker, mechanic, painter, plumber, carpenter, electrician
___	___	FARMER, FARM MANAGER
___	___	FARM LABORER AND FOREMAN
___	___	HOMEMAKER OR HOUSEWIFE
___	___	LABORER: car washer, sanitation worker, lumberman
___	___	MANAGER, ADMINISTRATOR: sales manager, office manager, school administrator, restaurant manager, government official

8. Cont'd

Father	Mother	
___	___	MILITARY: career officier, enlisted man or woman in the armed forces
___	___	OPERATIVE: mean cutter, assembler, machine operator, welder, bus or truck driver, gas station attendant
___	___	PROFESSIONAL: accountant, artist, clergyman, dentist, physician, registered nurse, engineer, lawyer, teacher
___	___	PROPRIETER OR OWNER: owner of a small business, contractor, restaurant owner
___	___	PROTECTIVE SERVICE: detective, policeman, fireman
___	___	SALES: salesman, sales clerk, insurance agent, real estate broker
___	___	SERVICE: barber, beautician, waiter, janitor, private household worker, practical nurse
___	___	TECHNICAL: draftsman, medical or dental technician
___	___	UNEMPLOYED
___	___	OTHER: please explain_____

9. Please look over the list of religions that follow. Then mark the blank which best indicates your father's religion, your mother's religion, and your religion. (Mark one blank for each person.)

Father's	Mother's	Yours	
___	___	___	Anglican
___	___	___	United
___	___	___	Baptist

9. Cont'd

Father's	Mother's	Yours	
___	___	___	Lutheran
___	___	___	Presbyterian
___	___	___	Seventh Day Adventist
___	___	___	Jevohah Witness
___	___	___	Roman Catholic
___	___	___	Mennonite
___	___	___	Other religion, explain _____
___	___	___	Do not have a religion
___	___	___	I don't know

10. As far as you know, is your religion (or your church) against drinking alcoholic beverages?

___ Yes

___ No

___ I don't know

___ I don't have a religion

11. How many times have you attended religious services during the last year?

___ More than once a week

___ About once a week

___ 2-3 times a month

___ About once a month

___ About every other month

___ Once or twice a year

___ Have not gone to religious services

12. I would like to know how important religion is to you in your daily life. Please mark one blank for each of the following five items to show how important each is to you. (Mark one blank for each row.)

How important is it for you: Not important	Slightly important	Important	Very important	
___	___	___	___	to be able to join and participate in religious youth programs
___	___	___	___	to be able to rely on religious counsel or teaching when you have a problem
___	___	___	___	to believe in God?
___	___	___	___	to be able to turn to prayer when facing a personal problem
___	___	___	___	to attend religious services regularly

13. In an average week, about how much money do you have available to spend as you wish?

___ None
___ Less than $5
___ About $5-$10
___ About $10-$15
___ About $15-20
___ More than $20

THE QUESTIONS IN THIS SECTION WILL ASK YOU ABOUT YOUR EXPERIENCE WITH BEER, WINE AND LIQUOR. PLEASE TRY TO ANSWER ALL QUESTIONS AS TRUTHFULLY AS POSSIBLE. YOUR QUESTIONNAIRE WILL NOT BE AVAILABLE TO ANYONE BUT ME.

14. When you were very young, did your parents ever give you a sip or a taste of wine, beer or liquor? (A sip or a taste is just a small amount or a swallow or a taste from someone else's glass; it's not a drink of your own.)

___Can't remember ___Never ___1 or 2 times ___Several times ___Often

15. In the past two or three years, have your parents ever given you a sip or a taste of wine, beer or liquor?

___Can't remember ___Never ___1 or 2 times ___Several times ___Often

16. Have you ever had a drink of wine, beer or liquor--not just a sip or taste?

___Yes ___No

17. Have you had a drink of wine, beer or liquor more than two or three times in your life?

___Yes ___No

18. How old were you when you had your first <u>drink</u> (not just a sip or taste)?

___Can't remember
___Never had a drink
___7 years old or less
___8 years old
___9 years old
___10 years old
___11 years old
___12 years old
___13 years old
___14 years old
___15 years old
___16 years old
___17 years old
___18 years old
___19 years old or more

NOW I WOULD LIKE TO ASK YOU A FEW QUESTIONS ABOUT YOUR CURRENT DRINKING HABITS.

19. Let's take beer first. How often do you usually have beer? (Mark the one blank that is the best answer.)

___Do not drink beer at all
___Every day
___Three or four days a week
___Two days a week
___One day a week
___Three or four days a month
___About once a month
___Less than once a month, but at least once a year
___Less than once a year

20. Think of all the times you have had beer recently. When you drink beer, how much do you usually have at one time, on the average?

___Do not drink beer at all
___Twelve or more bottles of beer
___About nine bottles of beer
___Six bottles of beer
___Five bottles of beer
___Four bottles of beer
___Three bottles of beer
___Two bottles of beer
___One bottle of beer
___Less than one bottle of beer

21. What is the greatest amount of beer you have ever had at any one particular time?

___Do not drink beer at all
___Twelve or more bottles of beer
___About nine bottles of beer
___Six bottles of beer
___Five bottles of beer
___Four bottles of beer
___Three bottles of beer
___Two bottles of beer
___One bottle of beer
___Less than one bottle of beer

22. Now, I want to ask you about wine. How often do you usually have wine?

___Do not drink wine at all
___Every day
___Three or four days a week
___Two days a week
___One day a week
___Three or four days a month
___About once a month
___Less than once a month, but at least once a year
___Drink less than once a year

23. Think of all the times you have had recently. When you drink wine, how much do you usually have at one time, on the average?

___Do not drink wine at all
___Twelve or more glasses
___About nine glasses
___Six glasses
___Five glasses
___Four glasses
___Three glasses
___Two glasses
___One glass
___Less than one glass

24. What is the greatest amount of wine you have ever had at any one particular time?

___Do not drink wine at all
___Twelve or more glasses
___About nine glasses
___Six glasses
___Five glasses
___Four glasses
___Three glasses
___Two glasses
___One glass
___Less than one glass of wine

25. Now, I want to ask you about liquor (whiskey, vodka, gin, mixed drinks, etc.) How often do you usually have a drink of liquor?

___Do not drink liquor at all
___Drink every day
___Drink three or four days a week
___Drink two days a week
___Drink one day a week
___Drink three or four days a month
___Drink about once a month
___Drink less than once a month, but at least once a year
___Drink less than once a year

26. How many drinks do you usually have at one time, on the average?

___Do not drink liquor at all
___Twelve or more drinks
___About nine drinks
___Six drinks
___Five drinks
___Four drinks
___Three drinks
___Two drinks
___One drink
___Less than one drink

27. What is the greatest number of drinks you have ever had at any one time?

___Do not drink liquor at all
___Twelve or more drinks
___About nine drinks
___Six drinks
___Five drinks
___Four drinks
___Three drinks
___Two drinks
___One drink
___Less than one drink

28. Please indicate how often you drink alcoholic beverages in each of the following settings. (Mark one blank for each row.)

Never drink or don't drink in this setting	Less than once a month	1-3 times a month	4 or more times a month	
___	___	___	___	At teenage parties when others are drinking and your parents or other adults <u>are not</u> present
___	___	___	___	At home on special occasions such as birthdays, or holidays as Christmas, etc.
___	___	___	___	Driving around or sitting in a car at night
___	___	___	___	At dinner at home with the family
___	___	___	___	At places where teenagers hand out when their parents or other adults <u>are not</u> present
___	___	___	___	At a party when others are drinking and when adults are present
___	___	___	___	During or after a school activity such as a dance or football game when your parents or other adults you know <u>are not</u> present or can't see you
___	___	___	___	Along--when no one else is around

29. Have you ever felt that other kids were "putting pressure" on you to drink?

___Never ___Once or twice ___Several Times ___Often

30. During the past year, how many times have each of the following happened to you? (Mark one blank for each row.)

None	Once	2-3 times	4-5 times	6-9 times	10 or more	
___	___	___	___	___	___	You've gotten into trouble with your teachers or principal because of your drinking
___	___	___	___	___	___	You've gotten into difficulty of any kind with your friends because of your drinking
___	___	___	___	___	___	You've driven when you've had a good bit to drink
___	___	___	___	___	___	You've been criticized by someone you were dating because of your drinking
___	___	___	___	___	___	You've gotten into trouble with the police because of your drinking
___	___	___	___	___	___	You've gotten into trouble with your parents because of your drinking

31. Does your father (or person who served as your father in raising you) ever drink beer, wine, or liquor?

___Yes, fairly regularly

___Yes, sometimes

___No

___I don't know

32. Does your mother (or person who served as your mother in raising you) ever drink beer, wine, or liquor?

___Yes, fairly regularly

___Yes, sometimes

32. Cont'd

___No

___I don't know

33. Do you have any comments to make about this questionnaire (or my study)?

APPENDIX B

THE MOONEY PROBLEM CHECK LIST

PREVIOUSLY COPYRIGHTED MATERIAL,

IN APPENDIX B, LEAVES 69-72,

NOT FILMED.

MOONEY PROBLEM CHECK LIST

ROSS L. MOONEY

BUREAU OF EDUCATIONAL RESEARCH
OHIO STATE UNIVERSITY

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APPENDIX C

THE CLASSIFICATION SCHEME

CLASSIFICATION SCHEME

The Alberta Alcoholism and Drug Abuse Commission states in its publication, Alcohol, "a 12 ounce bottle of beer contains about the same amount of alcohol as a 1½ ounce shot of distilled spirits or a 5 ounce glass of table wine. These amounts are used to define 'one drink' containing about 0.6 ounces of pure alcohol".

To determine what drinking category a student belonged to, the writer calculated the number of drinks he reported comsuming monthly.

The following table was thus used:

Category	Frequency	Number of Drinks	Abstolute Alcohol
Abstainer	doesn't drink at all or drinks less than once a month	less than on drink per month	less than 0.6 ounces per month
Moderate Drinker	drinks one to twelve times per month	1-5 drinks per occasion = 1-60 drinks per month	0.6 to 36 oz per month
Heavy Drinker	drinks more than twelve times per month	5-12 drinks per occasion = 61 or more drinks per month	36.6 oz or more per month

This classification scheme is an adaption of the one used by the Research Triangle Institute who conducted the United States National Survey of adolescent alcohol use in 1974.

APPENDIX D

RAW DATA

	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75		
53	1362	97	2 2 1 3 3 2 2 2				2 2 15 16 17 15			15 13 12			18 24	24	36	145	3	1
54	1312	98	1 2 1 2 2 5 3 1		12		0 3 5 8 13			9 5 10		2 2	6 10	8	23	78	5	2
55	0442	118	3 2 3 2 0 2 6 5		3		4 4 3 3 1			0 2 0		4 2	3 3	1	5	22	3	1
56	0242	112	2 2 2 2 6 5 3 1		9		4 4 3 2 3			3 2 5		5 5	2 2	5	10	37	6	2
57	0072	97	2 2 1 2 5 5 1 6		10		0 4 2 1 1			2 3 3		0 0	0 4	2	1	18	4	1
58	0252	111	3 2 2 1 1 2 3 5		7		0 3 2 0 3			1 5 5		4 2	5 3	3	11	33	6	1
59	0152	108	3 2 2 3 1 6 5 4		8		0 5 8 8 9			9 8 8		5 7	4 7	2	26	65	1	2
60	1352	95	2 2 1 3 4 6 4 1		13		2 1 6 7 8			6 16 15		13 12	15 16	12	37	128	5	1
61	0502	115	2 2 2 2 0 5 4 5		4		5 3 5 5 5			5 13 9		4 3	12 2	2	24	65	4	2
62	0262	109	3 2 2 2 2 4 2 2		8		2 5 6 10 10			9 16 6		10 5	5 9	4	9	90	5	2
63	1302	79	3 1 1 4 3 2 5 4		5		1 3 3 4 2			1 2 3		1 0	1 6	2	0	25	9	1
64	0722	122	3 1 3 2 2 2 1 1		11		3 1 2 0 6			3 22 7		7 0	0 12	4	15	63	4	1
65	1322	99	1 2 1 3 5 5 2 5		2		1 3 3 2 1			1 4 3		2 9	3 11	10	29	49	4	1
66	0562	115	2 1 2 3 1 2 5 6		1		1 3 3 6 1			3 3 4		6 6	6 8	9	17	55	4	1
67	1092	111	2 2 1 2 3 3 2 5		7		2 2 12 13 9			8 21 20		6 4	8 2	10	29	113	5	1
68	1122	131	1 1 1 2 8 2 2 2		8		5 5 4 5 2			6 7 4		9 2	9 5	6	28	59	4	1
69	0352	115	3 1 2 1 7 1 2 5		1		1 3 4 5 4			2 5 2		3 1	6 5	3	8	43	1	1
70	1052	122	1 1 1 2 5 2 4 4		3		2 3 6 3 11			3 7 4		1 5	1 4	3	0	48	2	1
71	0512	116	2 2 2 3 0 3 3 6		3		8 3 3 7 4			9 8 4		4 6	0 8	6	21	59	4	2
72	0712	96	3 1 3 2 4 6 3 1		13		0 3 2 1 5			8 3 3		2 1	1 7	0	13	33	4	1
73	0582	123	2 1 2 2 5 3 1 1		2		1 1 2 1 3			2 2 1		8 1	3 6	7	16	36	5	2
74	0802	127	1 1 1 3 2 2 1 2		8		0 1 5 6 6			2 3 4		6 6	6 3	9	6	56	1	1
75	0452	103	3 2 3 2 2 5 3 1		11		0 3 7 6 4			8 13 7		15 1	13 1	11	36	86	9	1
76	1342	104	2 2 1 3 4 2 6 6		5		1 3 3 2 0			6 5 8		3 5	3 3	9	21	47	4	2
77	0342	143	2 2 2 1 6 3 2 3		6		7 3 2 1 0			1 2 2		3 2	8 3	2	4	26	1	1
78	0182	109	3 2 2 3 0 2 2 5		6		1 4 3 4 4			4 4 4		6 4	6 4	11	1	17	51	5 1
79	0752	128	2 2 2 2 0 2 2 6		3		4 4 6 1 3			2 5 1		4 5	0 4	1	8	32	5	1
80	1222	122	1 2 1 2 5 1 3 2		8		5 4 9 9 7			11 15 8		8 15	5 6	6	45	99	4	1
81	1262	129	2 1 1 2 3 2 4 1		4		3 2 3 3 6			0 8 1		9 3	5 5	14	16	57	4	1
82	0422	102	4 2 3 2 3 2 2 3		11		2 2 8 4 1			3 6 9		6 2	6 7	4	10	56	4	1
83	1062	125	1 1 1 2 4 5 2 6		1		3 5 1 9 1			1 6 0		1 0	4 2	2	4	21	5	1
84	0552	120	3 1 2 3 7 3 2 6		1		9 3 1 7 2			4 1 1		3 2	1 11	14	20	47	2	2
85	0102	131	2 1 1 4 1 2 3 6		5		0 3 3 2 6			1 3 6		4 0	4 6	8	16	43	9	1
86	0742	126	3 1 2 2 8 5 1 1		3		4 1 3 0 0			0 2 4		1 1	0 0	0	3	11	9	1
87	1272	116	2 2 1 2 6 5 2 4		3		0 5 3 5 2			10 6 5		3 3	4 3	8	16	52	6	1
88	0362	106	3 2 3 1 4 4 2 3		12		2 4 8 3 8			4 7 11		9 4	8 8	7	24	77	4	1
89	1012	102	2 2 1 2 6 3 2 5		7		6 3 5 2 2			4 5 6		5 7	10 10	5	23	59	3	2
90	0392	124	3 2 3 2 4 4 2 1		12		2 1 8 8 7			5 8 10		10 10	19 9	11	37	105	3	1
91	0012	133	1 1 1 2 2 1 6 5		1		6 3 6 7 2			6 4 3		5 6	3 5	1	11	48	4	1
92	0472	94	3 1 2 4 2 5 5 5		3		8 3 2 8 2			2 3 7		2 2	8 8	5	12	47	5	2
93	0552	102	2 1 2 3 3 5 6 2		5		3 3 10 8 14			4 11 9		11 8	7 15	12	30	109	3	1
94	1362	112	1 2 1 2 1 3 2 5		6		2 3 5 1 4			4 3 5		3 0	3 3	3	11	34	9	1
95	0482	104	3 2 2 2 5 4 2 6		1		3 3 2 6 3			1 0 1		1 1	1 1	2	3	6	21	4 2
96	0042	103	1 1 1 3 8 2 4 1		5		3 1 4 2 2			3 4 4		6 8	2 10	3	3	40	3	1
97	0462	98	3 1 2 3 3 1 3 4		10		0 2 6 8 2			4 7 10		5 4	11 28	14	33	99	5	2
98	0602	102	1 1 1 3 4 4 3 5		3		9 3 10 8 1			2 3 2		2 8	0 8	6	21	50	4	1
99	0332	104	2 2 2 2 2 3 3 6		3		3 4 1 0 0			5 1 4		2 4	0 0	0	10	17	5	2
100	1942	119	1 2 1 2 3 2 5 6		1		2 1 2 1 1			1 4 4		4 3	7 1	2	12	31	2	2
101	0402	135	3 2 3 1 6 1 2 2		10		1 4 2 2 4			4 4 5		4 5	8 0	0	10	38	1	1
102	0323	122	3 1 3 3 2 1 3 3		5		3 4 0 0 0			0 0 0		3 1	6 0	2	10	30	3	1
103	0543	113	2 1 2 2 5 3 3 4		3		5 3 1 3 0			0 0 0		4 1	5 3	1	6	18	1	2
104	0053	104	2 1 1 3 5 2 2 6		2		25 2 2 2 3			5 4 3		4 6	4 7	6	8	46	1	1
105	1333	90	2 1 1 3 2 4 2 6		0		2 3 5 4 1			0 4 5		3 1	3 8	4	0	38	1	2
106	1023	101	1 1 1 3 3 5 3 6		5		6 3 1 5 5			2 12 3		7 6	3 12	14	23	70	1	2
107	0273	107	1 2 1 2 5 6 6 6		4		3 5 3 11 6			2 1 1		5 7	15 5	4	25	80	3	2
108	0033	116	1 1 1 3 5 5 2 6		0		3 5 2 2 1			0 0 1		2 2	2 8	4	7	26	3	2
109	0023	118	1 1 1 2 3 3 3 1		2		3 3 3 7 9			3 12 10		12 7	11 14	12	46	96	3	1
110	0533	113	2 1 2 4 3 2 6 5		2		13 1 2 3 5			2 8 8		9 16	6 10	21	33	92	1	2
111	0303	77	1 1 2 4 0 2 6 6		1		7 5 5 4 3			2 7 2		1 2	4 9	3	7	42	1	2
112	0283	99	3 2 2 3 7 3 3 5		3		5 4 2 1 1			1 1 0		3 1	3 3	3	0	8	18	3 2

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	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75		
113	0643	171	3	1	3	7	4	5	4	5	7	2	3	3	4	0	6	7	7	6	2	4	4	6	26	5	1
114	0763	102	4	1	3	3	5	2	2	5	6	17	2	3	0	6	9	5	7	10	10	11	11	11	24	83	1	2
115	0633	121	3	1	3	2	7	1	6	4	1	10	1	2	3	3	2	4	4	4	3	0	7	10	12	42	4	2
116	0793	106	3	1	3	3	1	2	6	6	2	9	3	4	4	6	2	6	3	0	3	6	3	2	11	39	5	2
117	0773	112	3	1	2	3	5	3	6	6	2	10	3	6	7	3	2	14	11	5	9	7	9	10	17	83	3	1
118	0783	107	3	1	3	3	1	1	5	6	5	4	3	8	10	6	9	17	11	10	5	9	29	25	35	141	4	2

RAW DATA

The raw data presented in this appendix followed the coding scheme below:

Columns 1-3 — indicated the subject's identification number

Column 4 — indicated the drinking group to which each subject belonged:

Category 1 was made up of abstainers

Category 2 was made up of moderate drinkers

Category 3 was made up of heavy drinkers

Columns 6-8 — indicated the subject's I.Q. score

Column 10 — indicated the subject's age:

Category 1 was age 15

Category 2 was age 16

Category 3 was age 17

Category 4 was age 18

Column 12 — indicated the subject's sex

Category 1 was male

Category 2 was female

Column 14 — indicated the subject's grade:

Category 1 was grade ten

Category 2 was grade eleven

Category 3 was grade twelve

Column 16 — indicated the subject's achievement level

Category 1 was an A average

RAW DATA (cont'd)

Category 2 was a B average

Category 3 was a C average

Category 4 was a D average

Column 18 indicated the number of extra-curricular activities each subject engaged in

Column 20 indicated the father's occupational level:

Category 1 was semiskilled worker

Category 2 was farmer

Category 3 was skilled worker

Category 4 was office worker/clerical

Category 5 was Manager/Owner/Administrator

Category 5 was Professional

Column 22 indicated each subject's religion:

Category 1 was Mennonite

Category 2 was United

Category 3 was Catholic

Category 4 was Lutheran

Category 5 was Other

Category 6 was No Religion

Column 24 indicated the frequency with which each subject attended religious services

Category 1 was once a week

Category 2 was 2-3 times per month

Category 3 was approximately once per month

Category 4 was 6 times per year

RAW DATA (cont'd)

Category 5 was 1-2 times per year

Category 6 was didn't attend at all

Column 26-27 indicated a religosity index for each subject

Column 29-30 indicated the number of negative consequences each subject experienced as a result of his drinking

Column 32 indicated a parental drinking index

Category 1 was neither parent drinks

Category 2 was one parent drinks occasionally

Category 3 was both parents drink occasionally

Category 4 was one parent drinks regularly and one drinks occasionally

Category 5 was both parents drink regularly

Column 34-35 indicated the number of problems each subject reported in the area of health and physical development

Column 37-38 indicated the number of problems each subject reported in the area of finances, living conditions and employment

Column 40-41 indicated the number of problems each subject reported in the area of social and recreational activities

Column 43-44 indicated the number of problems each subject reported in the area of social-psychological relations

RAW DATA (con'td)

Column 46-47	indicated the number of problems each subject reported in the area of personal-psychological relations
Column 49-50	indicated the number of problems each subject in the area of courtship, sex and marriage
Column 52-53	indicated the number of problems each subject reported in the area of morals and religion
Column 55-56	indicated the number of problems each subject reported in the area of home and family
Column 58-59	indicated the number of problems each subject reported in the area of the future: vocational and educational
Column 61-62	indicated the number of problems each subject reported in the area of adjustment to school work
Column 64-65	indicated the number of problems each subject reported in the area of curriculum and teaching procedure
Column 67-68	indicated the number of problems each subject reported as being most troublesome
Column 70,71,72	indicated the total number of problems each subject reported on the Mooney Problem Check List

RAW DATA (cont'd)

Column 75 indicated the age at which each subject took his first drink:

Category 1 was 10 years of age or younger

Category 2 was 11 years of age

Category 3 was 12 years of age

Category 4 was 13 years of age

Category 5 was 14 years of age

Category 6 was 15 years of age

Category 7 was 16 years of age or older

Category 8 was never have had a drink

Category 9 was can't remember first drink

Column 77 indicated whether or not each subject's mother worked primarily at home

Category 1 indicated her primary occupation was homemaker

Category 2 indicated that she worked outside the home regularly